

## Remarks

Claims 57-61, 63, and 65-112 are now pending in this application. Applicants have amended claims 57, 59, 63, 65, 91, 94, 109, and 110, and cancelled claims 62 and 64 to clarify the claimed invention. Applicants respectfully request favorable reconsideration of this application.

The Examiner objected to claim 57. Applicants have amended claim 57 along the lines suggested by the Examiner. Accordingly, Applicants respectfully request withdrawal of the objection to claim 57.

The Examiner rejected claims 57-93 under 35 U.S.C. § 112, second paragraph, as indefinite. Applicants have amended claim 57 to clarify the invention so as to no longer recited the term “corresponding” objected to by the Examiner. Accordingly, Applicants submit that claim 57 complies with 35 U.S.C. § 112, second paragraph, and respectfully request withdrawal of this objection.

The Examiner rejected claims 57-64, 69-74, and 89-93 on the ground of non-statutory double patenting over claims 1-5 and 7-16 of U.S. patent 6,838,627 to Isberg et al. Applicants submit herewith a terminal disclaimer signed by the attorney of record with respect to claims 1-5 and 7-16 of U.S. patent 6,838,627 to Isberg et al. Accordingly, Applicants respectfully request withdrawal of this rejection.

The Examiner rejected claims 57-63 under 35 U.S.C. § 102(b) as being anticipated by U.S. patent publication 2002/068488 to Tuller et al. The Examiner rejected claims 64-93 under 35 U.S.C. § 103(a) as being unpatentable over Tuller et al. The Examiner rejected claims 57-93 under 35 U.S.C. § 103(a) as being unpatentable over Isberg et al.

Tuller et al. does not disclose the invention recited in claims 57-63 or claims 64-93, which depend from claim 57, since, among other things, Tuller et al. does not disclose a nanocomposite including a mixture of different phases based on the atomic elements in a multielement material having the composition  $M_{(n+1)}AX_n$ , where M is a transition metal or a combination of a transition metals, n is 1, 2, 3 or higher, A is a group A element or a combination of a group A element, and X is Carbon, Nitrogen or both. Tuller et al. also does not disclose that the multielement material includes a nanocomposite including nanocrystals and amorphous regions. Rather, Tuller et al. discloses an electrical contact for a silicone carbide (SiC) device including titanium silicone carbide ( $Ti_3SiC_2$ ). Tuller et al. includes a structure to establish and maintain contact between a MAX-phase and SiC. Tuller et al. discloses a way to create an ohmic or Schottky contact to SiC devices using MAX phases with different combinations of elements, but mainly  $Ti_3SiC_2$ . The interface in this contact is solid, which means that the layer of  $Ti_3SiC_2$  is deposited or grown on the SiC device and forms a solid body.

On the other hand, the claimed invention includes a contact element including a MAX-phase layer deposited on a substrate as a contact with the surface of the MAX-phase layer as an electrical contact to a separate contact member. The MAX-phase layer includes a nanocomposite including crystals.

Tuller et al. provides a solution to the technical problem of how to improve the contact properties or functionality, for example to obtain a contact surface with low friction, of a multielement material in a film for a contact element. One of ordinary skill in the art solving this problem would not arrive at the solution of the claimed invention that includes a multielement material including a nanocomposite including nanocrystals and amorphous regions especially since Tuller et al. does not include any disclosure of such a structure. Rather, quite the opposite, Tuller et al. discloses how to achieve a solid interface toward a substrate. Tuller et al. does not disclose how to provide an electric contact element having a contact layer with low friction for making an electric contact-to-contact member.

In view of the above, Tuller et al. does not disclose all elements of the invention recited in claims 57-63. Since Tuller et al. does not disclose all elements of the invention recited in claims 57-63, the invention recited in claims 57-63 is not properly rejected under 35 U.S.C. § 102(b). For an anticipation rejection under 35 U.S.C. § 102(b) no difference may exist between the claimed invention and the reference disclosure. *See Scripps Clinic and Research Foundation v. Genentech, Inc.*, 18 U.S.P.Q. 841 (C.A.F.C. 1984).

Along these lines, anticipation requires the disclosure, in a cited reference, of each and every recitation, as set forth in the claims. *See Hodosh v. Block Drug Co.*, 229 U.S.P.Q. 182 (Fed. Cir. 1986); *Titanium Metals Corp. v. Banner*, 227 U.S.P.Q. 773 (Fed. Cir. 1985); *Orthokinetics, Inc. v. Safety Travel Chairs, Inc.*, 1 U.S.P.Q.2d 1081 (Fed. Cir. 1986); and *Akzo N.V. v. U.S. International Trade Commissioner*, 1 U.S.P.Q.2d 1081 (Fed. Cir. 1986).

The present application and U.S. patent 6,838,627 to Isberg et al. have a common ownership interest and the inventor Isberg is the same inventor in both the application and the patent. Along these lines, U.S. patent 6,838,627 is assigned to ABB AB and the present application is assigned to ABB Research Ltd. and Impact Coatings AB. ABB AB and ABB Research Ltd. are under the same corporate umbrella. In view of this and the terminal disclaimer, Applicants respectfully request withdrawal of the rejection based upon U.S. patent 6,838,627 to Isberg et al.

Additionally, as noted in the specification as page 4, lines 9-20, Isberg et al. (U.S. patent 6,838,627 corresponds to WO 01/41167 discussed in this passage) suggests a body made of a material that is not shape resistant at high temperatures.

Therefore, Isberg et al. is not a valid reference against the present application and does not suggest the claimed invention.

In view of the above, the reference relied upon in the office action does not disclose or suggest patentable features of the claimed invention. Therefore, the reference relied upon in the office action does not anticipate the claimed invention or make the claimed invention obvious. Accordingly, Applicants submit that the claimed invention is patentable over the cited reference and respectfully request withdrawal of the rejections based on the cited reference.

If an interview would advance the prosecution of this application, Applicants respectfully

urge the Examiner to contact the undersigned at the telephone number listed below.

The undersigned authorizes the Commissioner to charge fee insufficiency and credit overpayment associated with this communication to Deposit Account No. 22-0261.

Respectfully submitted,

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